

## REMARKS

Favorable reconsideration of this application, in view of the present amendment and in light of the following discussion, is respectfully requested.

Claims 1 and 7 have been amended. Claims 5-6 and 11-12 have been cancelled. New claim 13 has been added. Claims 1-4, 7-10, and 13 are pending and under consideration.

### I. Rejections under 35 U.S.C. § 112

In the Office Action, at page 2, claims 7-12 were rejected under the second paragraph of 35 USC § 112 as being indefinite. Claim 7 has been amended in response to these objections. Claims 8-10 each depend directly from claim 7 and claim 11-12 have been cancelled. Accordingly, withdrawal of these rejections is respectfully requested.

### II. Rejections under 35 U.S.C. § 102/ 35 U.S.C. § 103

In the Office Action, at pages 2-3, claims 1 and 7 were rejected under 35 USC § 102(e) as anticipated by Bickham et al. (U.S. Patent No. 6,580,861).

In the Office Action, at page 3, claims 1-2, 4, 7-8, and 10 were rejected under 35 USC § 102(e) as anticipated by Tagar et al. (U.S. Patent Application No. 2004/0208608).

In the Office Action, at pages 3-4, claims 3 and 9 were rejected under 35 USC § 103(a) as being unpatentable over Tagar et al. in view of Tsuritani et al. (U.S. Patent No. 6,768,872).

In the Office Action, at pages 4-5, claims 5-6 and 11-12 were rejected under 35 USC § 103(a) as being unpatentable over Tagar et al. in view of Zhou (U.S. Patent Application No. 2003/0219198).

Independent claim 1 has been amended to include the features of dependent claims 5 and 6. Independent claim 7 has been amended to include the features of dependent claims 11 and 12. The Examiner, at page 4, lines 16-18, acknowledges that Tagar et al. does not teach the bit rates of the wavelength channels. Therefore, Tagar et al. does not discuss or suggest:

the system transmits both an optical signal whose bit rate per wavelength is 10 Gbps and an optical signal whose bit rate per wavelength is 40 Gbps, and

the optical signal whose bit rate per wavelength is 40 Gbps is used only for a transmission between said optical transmitting end station and a particular node, between particular nodes, or between a particular node and an optical receiving end station,

as recited in amended independent claim 1. Zhou fails to make up for this deficiency.

Specifically, Zhou does not discuss or suggest:

the system transmits both an optical signal whose bit rate per wavelength is 10 Gbps and an optical signal whose bit rate per wavelength is 40 Gbps, and

the optical signal whose bit rate per wavelength is 40 Gbps is used only for a transmission between said optical transmitting end station and a particular node, between particular nodes, or between a particular node and an optical receiving end station,

as recited in amended independent claim 1. In other words, claim 1 provides that the optical signal with the bit rate per wavelength of 40 Gbps is used *only* for a transmission between a transmission node and the first secondary optical relay node counting from the transmission node, between the adjacent secondary optical relay nodes, or between a secondary optical relay node that is immediately before a receiving node and the receiving node. This is provided such that the dispersion compensation amount is set to be overcompensated for each relay device (first optical relay node), which is a dispersion map appropriate for optical signals with a bit rate of 40 Gbps.

In contrast, Zhou, as relied on by the Examiner, *merely mentions* that high-speed TDM signals can have bit rates of 10 Gb/s, 40 Gb/s, or more. Zhou does not disclose that an optical signal with a bit rate of 40 Gb/s is used for any specific purpose, much less used for a transmission between an optical transmitting end station and a particular node, between particular nodes, or between a particular node and an optical receiving end station, as is provided by claim 1. The fact that a reference, in this case Zhou, lists a plurality of *possible* bit rates for high-speed TDM signals, does not yield that the reference teaches or makes obvious the use of an optical signal with the bit rate per wavelength of 40 Gbps for a specific purpose, such as transmission between the optical transmitting end station and a particular node, between particular nodes, or between a particular node and an optical receiving end station, as provided by claim 1. The Examiner also indicates that bit rates of 10 Gbps and 40 Gbps are well known in the art. Again, the indication that bit rates of 10 Gbps and 40 Gbps are well known in the art, which the Applicants do not concede, does not teach or render obvious the use of a bit rate of 40 Gbps for optical signal transmission between the optical transmitting end station and a particular node, between particular nodes, or between a particular node and an optical receiving end station, as provided by claim 1.

As discussed above, claim 1 provides that the optical signal whose bit rate per wavelength is 40 Gbps is used only for a transmission between the optical transmitting end

station and a particular node, between particular nodes, or between a particular node and an optical receiving end station, such that the dispersion compensation amount is set to be overcompensated for each relay device. Thus, combining the teaching of Zhou with the optical communication system of Tagar et al. to transmit optical signals of 10 Gb/s and 40 Gb/s based on traffic need is not a proper motivation. Furthermore, even if the teaching of Zhou were combined with the optical communication system of Tagar et al., the invention of claim 1 would not result.

Since neither Tagar et al. nor Zhou, alone or in combination, discuss or suggest all of the features of claim 1 and there is no proper motivation to combine Tagar et al. and Zhou for the purpose indicated by the Examiner, claim 1 distinguishes over Tagar et al. and Zhou. Furthermore, none of the other cited references, including Bickham et al. and Tsuritani et al., make up for these deficiencies as they apply to claim 1. Accordingly, withdrawal of the rejection of claim 1 is respectfully requested.

Claims 2-4 depend directly from claim 1, and include all the features of claim 1, plus additional patentable features that are not discussed or suggested by the references relied upon. Therefore, claims 2-4 patentably distinguish over the references relied upon for at least the reasons noted above. Accordingly, withdrawal of the rejection of claims 2-4 is respectfully requested.

Amended independent claim 7 contains features similar to those recited in amended independent claim 1. Therefore, claim 7 patentably distinguishes over the cited references for the reasons discussed above. Accordingly, withdrawal of the rejection of claim 7 is respectfully requested.

Claims 8-10 depend directly from claim 7, and include all the features of claim 7, plus additional patentable features that are not discussed or suggested by the references relied upon. Therefore, claims 8-10 patentably distinguish over the references relied upon for at least the reasons noted above. Accordingly, withdrawal of the rejection of claims 8-10 is respectfully requested.

Claims 5-6 and 11-12 have been cancelled. Accordingly, withdrawal of these rejections is respectfully requested.

## **II. New Claim**

New claim 13 has been added. None of the cited references discuss or suggest:

an optical signal with a bit rate per wavelength of 40 Gbps is used

only for a transmission between said optical transmitting end station and a particular node, between particular nodes, or between a particular node and an optical receiving end station,

as recited in new claim 13. Thus, it is submitted that new claim 13 is in a condition suitable for allowance.

## CONCLUSION

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

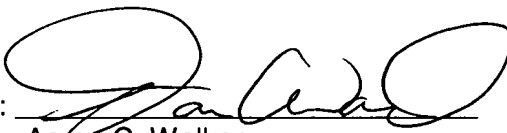
Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

STAAS & HALSEY LLP

Date: 6-21-07

By:   
Aaron C. Walker  
Registration No. 59,921

1201 New York Avenue, N.W., 7th Floor  
Washington, D.C. 20005  
Telephone: (202) 434-1500  
Facsimile: (202) 434-1501

1421